

SOLVING TRIG EQUATIONS USING GRAPHICS CALCULATOR

Example 1: Solve $40 \cos (x + 30^\circ) = 25$ $-180^\circ \leq x \leq 180^\circ$

In Graphs, type in:

- $y_1 = 40 \cos (x + 30^\circ)$
- $y_2 = 25$

Set Angle mode to Degrees.

$$A = 40, B = 1, C = 30^\circ, D = 0$$

Viewing Window Settings

$$x_{min} = -180^\circ$$

$$x_{max} = 180^\circ$$

$$y_{min} = -40$$

$$y_{max} = 40$$

x_{min} and x_{max} values are determined by the range in which you want to find the solutions. In this case, it is $-180^\circ \leq x \leq 180^\circ$

Once both graphs are displayed, press F5 for G-Solv, press F5 for ISCT, then wait for the graphics calculator to display the first solution: $x = -81.318$. Press the right arrow to obtain the second solution: $x = 21.318$. These are the two solutions within the range $-180^\circ \leq x \leq 180^\circ$.

Delta Ex 35.3 pg 340 Q 1, 2.

Delta Ex 35.4 pg 342 Q 3, 5, 6.

Delta Ex 35.5 pg 343 Q 1b, 2b, 6a.